CLAIMS

We claim:

1. A container having an encapsulated rim, the container comprising at least one sidewall having a top edge;
a bottom surface adjacent to the sidewall;
a formed corner disposed along the sidewall, the formed corner having a top edge;
a unitary flange extending outward from the top edge both the sidewall and formed corner, the flange being formed in a manner corresponding to the formed corner; and
an encapsulated rim having a profile encapsulating the flange.

2. The tray of claim 1, wherein the encapsulated rim is made of plastic.

3. The tray of claim 2, wherein the plastic is chosen from the group of polyolefin, nylon, and polyester.

4. The tray of claim 1, wherein the encapsulated rim creates a hermetic seal with the flange.

5. The tray of claim 3, wherein the encapsulated rim is injection molded around the flange.

6. The tray of claim 4, further comprising a film removably sealed to the encapsulated rim.

7. The tray of claim 6, wherein the combination of the film and the encapsulated rim forms a hermetic seal.

8. The tray of claim 7, wherein the film is a material chosen from the group consisting of plastic, paper, aluminum foil, and fiberboard.

9. A tray having an encapsulated rim, the tray comprising

at least one sidewall having a top edge;

a bottom surface adjacent to the sidewall;

a formed corner disposed along the sidewall, the formed corner having a top edge;

a unitary flange extending outward from the top edge of both the sidewall and formed corner, the flange being pleated in a radius corresponding to the formed corner; and

a substantially rigid encapsulated rim having a profile encapsulating the flange and reinforcing the rigidity of the tray.

10. The tray of claim 9, wherein the substantially rigid encapsulated rim comprises injection-molded plastic.

11. The tray of claim 9, wherein the tray is at least twenty inches in circumference.

12. The tray of claim 10, wherein

the tray is formed of fiberboard capable of withstanding heat up to approximately four hundred degrees Fahrenheit; and

the substantially rigid encapsulated rim retains its shape and rigidity in heat up to approximately four hundred twenty-five degrees Fahrenheit.

13. The tray of claim 10, wherein the formed corner is crimped.

14. The tray of claim 10, wherein the formed corner is pleated.

15. The tray of claim 10, wherein the formed corner is made of overlapping layers of material.

16. The tray of claim 9, wherein the encapsulated rim comprises at least one handle.

17. The tray of claim 16, wherein the at least one handle is hinged to allow the at least one handle to fold over the interior surface of the tray.

18. The tray of claim 9, further comprising an interior coating covering the bottom surface and the at least one sidewall.

19. The tray of claim 18, further comprising an injection-molded interior divider situated atop the bottom surface and dividing the bottom surface into at least a first interior cavity and a second interior cavity.

20. The tray of claim 19, further comprising

a first material located in the first interior cavity between the interior coating and the bottom surface, the first material being selected from the group comprising microwave transparent materials, microwave reflective materials, and microwave absorbing materials; and

a second material located in the second interior cavity between the interior coating and the bottom surface, the second material being selected from the group comprising microwave transparent materials, microwave reflective materials, and microwave absorbing materials.

21. The tray of claim 20, wherein said first material has a first microwave interactive property, wherein said second material has a second microwave interactive property, and wherein the first microwave interactive property is different from the second microwave interactive property.

22. The tray of claim 9, further comprising a waterproof injection-molded coating covering the interior and exterior of the tray.

23. A method for creating an encapsulated rim, the method comprising the steps of

inserting a tray having a flange into an injection mold tool in such a manner that a first portion of the flange extends between clamping surfaces of the injection mold tool;

closing the injection mold tool, thereby clamping the first portion of the flange;

injecting molten polymer into the injection mold tool via a pressurized inlet port;

coating a second portion of the flange with the injected molten polymer; and

allowing the molten polymer to cool around the coated second portion of the flange, forming a polymer barrier.

24. The method of claim 23, further comprising:

pressurizing the inlet port to a higher pressure than the pressure inside the injection mold tool;

injecting the molten polymer into at least one irregularity in the flange by means of the pressurized inlet port; and

allowing the molten polymer to cool inside the at least one irregularity, thus filling in the at least one irregularity.

25. The method of claim 23, wherein the molten polymer encapsulates an outer edge and a bottom of the flange, and wherein the molten polymer is substantially level with a top of the flange.

26. A method for manufacturing a tray, the method comprising

heat plasticizing a tray blank;

forming a three-dimensional tray from the heat plasticized tray blank; and

injection molding a rim feature along at least a portion of the three-dimensional tray.

27. The method of claim 26, wherein the rim feature comprises an encapsulated flange.

28. The method of claim 26, wherein the rim feature comprises a corner seam.

29. A method for producing a container having an encapsulated feature, comprising:

placing a blank in a tool;

press-forming said blank into a three-dimensional container; and

injection-molding said encapsulated feature onto said container.

30. The method of claim 29, further comprising pre-heating said tool.

31. The method of claim 30, wherein said step of press-forming said blank comprises closing said tool on said blank.

32. The method of claim 30, wherein said step of injection-molding comprises:

injecting a resin into an injection cavity; and

cooling said resin.

33. The method of claim 32, wherein said injection cavity is shaped according to said encapsulated feature.

34. The method of claim 32, wherein said resin is injected though at least one gate.

35. The method of claim 34, wherein said resin is injected through two gates equidistantly spaced along said injection cavity.

36. The method of claim 35, wherein said step of injection-molding further comprises pressurizing said resin to 2000 lbs/sq in.

37. The method of claim 36, further comprising forcing a portion of said blank against a shut-off wall.

38. The method of claim 37, wherein said step of forcing a portion of said blank against a shut-off wall comprises injecting said resin under pressure sufficient to drive said portion of said blank against said shut-off wall.

39. The method of claim 38, further comprising fusing at least two pleats of said blank together.

40. The method of claim 39, wherein said step of fusing comprises mechanically intermixing said pleats under high pressure.

41. The method of claim 39, wherein said step of fusing comprises chemically crosslinking said pleats under high pressure.

42. The method of claim 33, further comprising:
positioning a flange of said blank within said injection cavity; and
injecting resin onto at least one surface of said flange.

43. The method of claim 33, further comprising:
positioning a sidewall of said blank along a sidewall of said injection cavity; and

injecting resin along a portion of said sidewall.

44. The method of claim 33, wherein said step of injecting a resin into an injection cavity comprises:

injecting resin into an advanced-flow section of said injection cavity; and

after injecting resin into said advanced-flow section, injecting resin into a delayed-flow section of said injection cavity.

45. The method of claim 43, further wherein said step of press-forming comprises placing at least a portion of said blank between a concavely curved sidewall of said cavity and a convexly curved sidewall of said core to form a container having at least one convexly curved sidewall.

46. The method of claim 45, further comprising straightening said convexly curved sidewall through shrinking said resin.

47. A tool for creating a container having an encapsulated feature, comprising:

a cavity operable to receive a tray blank;

a core operationally connected to said cavity, said core operational to enter said cavity;

an injection cavity defined by a first portion of said cavity and a first portion of said core when said core enters said cavity; and

injection-molding means.

48. The tool of claim 47, wherein said injection-molding means comprises a gate operational to inject resin into said injection cavity.

49. The tool of claim 48, wherein said injection-molding cavity further comprises:

an advanced-flow section running along at least part of said injection-molding cavity; and

a delayed-flow section running along at least part of said injection molding cavity.

50. The tool of claim 49, wherein said advanced-flow section and said delayed-flow section are in fluid communication with one another.

51. The tool of claim 50, wherein said delayed-flow section comprises:

a flange section operational to receive a portion of said blank; and

a resin section, said resin section extending from said flange section.

52. The tool of claim 51, wherein said portion of said blank terminates prior to said flange section.

53. The tool of claim 52, wherein said advanced-flow section is configured to permit more rapid resin flow than said delayed-flow section.

54. The tool of claim 53, wherein said advanced-flow section and said delayed-flow section are configured to even out resin flow therebetween over a distance from said gate.

55. The tool of claim 50, wherein a protrusion of said advanced-flow section protrudes into said delayed-flow section.

56. The tool of claim 55, wherein said protrusion is semi-ovoid.

57. The tool of claim 47, wherein:

at least one sidewall of said cavity is convexly curved; and

at least one sidewall of said core is concavely curved; wherein

said concavely curved and convexly curved sidewalls have the same curvature.

58. The tool of claim 57, wherein said curvature is .018 inches.

59. The tool of claim 58, wherein said concavely and convexly curved sidewalls cooperate to form a container having at least one curved sidewall.

60. A container having an injection-molded feature, comprising:

a first blank;

a second blank;

a first injection-molded seam attaching said first blank to said second blank; and

a second injection-molded seam attaching a first sidewall of said first blank to a second sidewall of said first blank.

61. The container of claim 60, wherein said first and second sidewalls oppose each other.

62. The container of claim 61, wherein said container is cylindrical.

63. The container of claim 62, wherein a bottom surface of said first seam extends downwardly past a bottom surface of said second blank.

64. The container of claim 62, further comprising a third injection-molded seam running along a top edge of said first blank.

65. The container of claim 64, wherein:

said third seam extends across at least a portion of an outer sidewall of said first blank; and

said third seam comprises a projection extending outwardly from said outer sidewall of said first blank.

66. The container of claim 65, wherein said projection raises a portion of said container above a top surface of a second container, when said container is placed within said second container.

67. A tray having an injection-molded feature, said tray comprising:
at least one sidewall having a top edge;
a bottom surface connected to the sidewall;
a unitary, encapsulated rim extending outwardly from the top edge of said sidewall; and
a lid at least partially folded over said encapsulated rim.

68. The tray of claim 67, wherein said encapsulated rim is formed entirely from an injection-molded resin.

69. The tray of claim 68, wherein said encapsulated rim comprises:
a paperboard layer; and
a resin layer affixed to said paperboard layer.

70. The tray of claim 69, wherein said resin layer extends outwardly from a side edge of said paperboard layer.

71. The tray of claim 70, wherein said lid folds over said resin layer.

72. The tray of claim 71, wherein said lid and said resin layer form a hermetic seal.

73. The tray of claim 71, wherein said lid and said resin layer are affixed to one another.

74. The tray of claim 73, wherein said injection-molded feature is formed from a resin impregnated with glass fibers.

75. The tray of claim 74, wherein said glass fibers minimize shrinkage of said resin.

76. The tray of claim 75, wherein said resin shrinks in response to cooling.

77. The tray of claim 74, wherein said glass fibers minimize distortion of said tray due to shrinkage of said resin.